

Having thus described the preferred embodiment, the invention is now claimed to be:

1. In a scanning system including an illumination source having a time varying output controlled by a drive circuit and an image sensor driven by a pixel clock for scanning successive scan lines of an image, a method of eliminating strobing in the successive scan lines of the image comprising:

5 determining a nominal scan line time and an associated scan line integration time for the image sensor;

determining a nominal illumination source light output period;

adjusting at least one of (i) the nominal scan line integration time and (ii) the nominal illumination source light output period such that the scan line 10 integration time is equivalent to an integer number of illumination source light output periods.

2. The method as set forth in claim 1, further comprising:

feeding one of (i) a pixel clock signal, and (ii) a signal derived from a pixel clock into the drive circuit to drive the illumination source at a frequency corresponding to the adjusted light output period.

3. The method as set forth in claim 2, further comprising:

using the pixel clock signal, synchronizing (i) a relative phase of the illumination source light output and (ii) a start time of the image sensor integration for each scan line.

4. The method as set forth in claim 2, wherein if a given scan line integration time is required, the adjusting step includes:

calculating a ratio of the required scan line integration time and the nominal illumination source light output period;

5 if the calculated ratio is a non-integer, rounding the ratio to a nearest integer value; and

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dividing the required scan line integration time by the integer value to yield an adjusted illumination source light output period.

5. The method as set forth in claim 2, wherein if a given illumination source light output period is required, the adjusting step includes:

calculating a ratio of the nominal scan line integration time and the required illumination light output period;

5 if the calculated ratio is a non-integer, rounding the ratio to a nearest integer value; and

multiplying the required illumination source light output period by the integer value to yield an adjusted scan line integration time.

6. The method as set forth in claim 1, further comprising:

using a drive signal from the pixel clock, driving (i) the illumination source at a frequency corresponding to the adjusted light output period and (ii) the image sensor at a scan line frequency corresponding to the 5 adjusted scan line integration time.

7. A method of scanning a document, said method comprising:

illuminating the document with a lamp having a time varying light output;

5 scanning successive scan lines of the illuminated document with a line scanner;

adjusting at least one of (i) a nominal light output period of the lamp and (ii) a nominal scan line integration time of the scanner such that the scan line integration time of the scanner is equivalent to an integer number of 10 lamp light output periods; and

driving the lamp and the scanner in accordance with the adjusted light output period and scan line integration time using a common pixel clock signal.

8. The method as set forth in claim 7, further comprising:  
using the pixel clock signal, synchronizing (i) a relative phase of  
the lamp light output and (ii) a start time of the scanner integration time for each  
scan line.

9. The method as set forth in claim 7, wherein if a given scan  
line integration time is required, the adjusting step includes:

calculating a number of nominal lamp light output periods within  
the required scan line integration time;

5 if the calculated number is a non-integer, rounding the number  
down to a nearest integer value; and

dividing the required scan line integration time by the integer  
value to yield an adjusted lamp light output period.

10. The method as set forth in claim 7, wherein if a given lamp  
light output period is required, the adjusting step includes:

calculating a number of required lamp light output periods with  
the nominal scan line integration time;

5 if the calculated number is a non-integer, rounding the number  
down to a nearest integer value; and

multiplying the required lamp light output period by the integer  
value to yield an adjusted scan line integration time.

11. A xerographic imaging system for reproducing an image  
representation of a document, said system comprising:

a planar imaging platen;

a lamp having a time varying output for illuminating the document

5 on the platen;

means for scanning successive scan lines of the document;

means for controlling (i) a light output period of the lamp and (ii)  
a scan line integration time of the scanning means such that the scan line  
integration time is equivalent to an integer number of lamp light output periods;

10 means for transferring an image charge pattern onto a photoreceptor;  
at least one developing station for developing the charge pattern;  
and  
at least one fuser station for fixing a developed image onto a  
15 physical media.

12. The xerographic imaging system according to claim 11,  
wherein the means for controlling includes:

a frequency control processor which adjusts at least one of (i) the light output period of the lamp and (ii) the scan line integration time of the  
5 scanning means; and  
a pixel clock which provides a drive signal for driving (i) the lamp and (ii) the scanning means.